

PCT09

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/856,812

DATE: 11/06/2001

TIME: 14:59:21

Input Set : A:\PTO.DC.txt

Output Set: N:\CRF3\11062001\I856812.raw

3 <110> APPLICANT: Huang, Lan-Qing
 4 Van Pel, Aline
 5 Brasseur, Francis
 6 De Plaen, Etienne
 7 Boon, Thierry
 9 <120> TITLE OF INVENTION: Tumour Rejection Antigens
 11 <130> FILE REFERENCE: L0461/7115(JRV)
 13 <140> CURRENT APPLICATION NUMBER: US 09/856,812
 C--> 14 <141> CURRENT FILING DATE: 2001-09-07
 16 <150> PRIOR APPLICATION NUMBER: GB 9826143.1
 17 <151> PRIOR FILING DATE: 1998-11-27
 19 <160> NUMBER OF SEQ ID NOS: 56
 21 <170> SOFTWARE: PatentIn Ver. 2.1
 23 <210> SEQ ID NO: 1
 24 <211> LENGTH: 369
 25 <212> TYPE: PRT
 26 <213> ORGANISM: Homo sapiens
 28 <400> SEQUENCE: 1
 29 Met Pro Arg Ala Pro Lys Arg Gln Arg Cys Met Pro Glu Glu Asp Leu
 30 1 5 10 15
 32 Gln Ser Gln Ser Glu Thr Gln Gly Leu Glu Gly Ala Gln Ala Pro Leu
 33 20 25 30
 35 Ala Val Glu Glu Asp Ala Ser Ser Ser Thr Ser Thr Ser Ser Ser Phe
 36 35 40 45
 38 Pro Ser Ser Phe Pro Ser Ser Ser Ser Ser Ser Ser Ser Ser Cys Tyr
 39 50 55 60
 41 Pro Leu Ile Pro Ser Thr Pro Glu Glu Val Ser Ala Asp Asp Glu Thr
 42 65 70 75 80
 44 Pro Asn Pro Pro Gln Ser Ala Gln Ile Ala Cys Ser Ser Pro Ser Val
 45 85 90 95
 47 Val Ala Ser Leu Pro Leu Asp Gln Ser Asp Glu Gly Ser Ser Ser Gln
 48 100 105 110
 50 Lys Glu Glu Ser Pro Ser Thr Leu Gln Val Leu Pro Asp Ser Glu Ser
 51 115 120 125
 53 Leu Pro Arg Ser Glu Ile Asp Glu Lys Val Thr Asp Leu Val Gln Phe
 54 130 135 140
 56 Leu Leu Phe Lys Tyr Gln Met Lys Glu Pro Ile Thr Lys Ala Glu Ile
 57 145 150 155 160
 59 Leu Glu Ser Val Ile Lys Asn Tyr Glu Asp His Phe Pro Leu Leu Phe
 60 165 170 175
 62 Ser Glu Ala Ser Glu Cys Met Leu Leu Val Phe Gly Ile Asp Val Lys
 63 180 185 190
 65 Glu Val Asp Pro Thr Gly His Ser Phe Val Leu Val Thr Ser Leu Gly
 66 195 200 205
 68 Leu Thr Tyr Asp Gly Met Leu Ser Asp Val Gln Ser Met Pro Lys Thr
 69 210 215 220
 71 Gly Ile Leu Ile Leu Ile Leu Ser Ile Ile Phe Ile Glu Gly Tyr Cys

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/856,812

DATE: 11/06/2001

TIME: 14:59:21

Input Set : A:\PTO.DC.txt

Output Set: N:\CRF3\11062001\I856812.raw

```

72 225          230          235          240
74 Thr Pro Glu Glu Val Ile Trp Glu Ala Leu Asn Met Met Gly Leu Tyr
75          245          250          255
77 Asp Gly Met Glu His Leu Ile Tyr Gly Glu Pro Arg Lys Leu Leu Thr
78          260          265          270
80 Gln Asp Trp Val Gln Glu Asn Tyr Leu Glu Tyr Arg Gln Val Pro Gly
81          275          280          285
83 Ser Asp Pro Ala Arg Tyr Glu Phe Leu Trp Gly Pro Arg Ala His Ala
84          290          295          300
86 Glu Ile Arg Lys Met Ser Leu Leu Lys Phe Leu Ala Lys Val Asn Gly
87 305          310          315          320
89 Ser Asp Pro Arg Ser Phe Pro Leu Trp Tyr Glu Glu Ala Leu Lys Asp
90          325          330          335
92 Glu Glu Glu Arg Ala Gln Asp Arg Ile Ala Thr Thr Asp Asp Thr Thr
93          340          345          350
95 Ala Met Ala Ser Ala Ser Ser Ser Ala Thr Gly Ser Phe Ser Tyr Pro
96          355          360          365
98 Glu
102 <210> SEQ ID NO: 2
103 <211> LENGTH: 234
104 <212> TYPE: PRT
105 <213> ORGANISM: Homo sapiens
107 <400> SEQUENCE: 2
108 Met Leu Leu Gly Gln Lys Ser Gln Arg Tyr Lys Ala Glu Glu Gly Leu
109 1 5 10 15
111 Gln Ala Gln Gly Glu Ala Pro Gly Leu Met Asp Val Gln Ile Pro Thr
112 20 25 30
114 Ala Glu Glu Gln Lys Ala Ala Ser Ser Ser Thr Leu Ile Met Gly
115 35 40 45
117 Thr Leu Glu Glu Val Thr Asp Ser Gly Ser Pro Ser Pro Pro Gln Ser
118 50 55 60
120 Pro Glu Gly Ala Ser Ser Ser Leu Thr Val Thr Asp Ser Thr Leu Trp
121 65 70 75 80
123 Ser Gln Ser Asp Glu Gly Ser Ser Ser Asn Glu Glu Glu Gly Pro Ser
124 85 90 95
126 Thr Ser Pro Asp Pro Ala His Leu Glu Ser Leu Phe Arg Glu Ala Leu
127 100 105 110
129 Asp Glu Lys Val Ala Glu Leu Val Arg Phe Leu Leu Arg Lys Tyr Gln
130 115 120 125
132 Ile Lys Glu Pro Val Thr Lys Ala Glu Met Leu Glu Ser Val Ile Lys
133 130 135 140
135 Asn Tyr Lys Asn His Phe Pro Asp Ile Phe Ser Lys Ala Ser Glu Cys
136 145 150 155 160
138 Met Gln Val Ile Phe Gly Ile Asp Val Lys Glu Val Asp Pro Ala Gly
139 165 170 175
141 His Ser Tyr Ile Leu Val Thr Cys Leu Gly Leu Ser Tyr Asp Gly Leu
142 180 185 190
144 Leu Gly Asp Asp Gln Ser Thr Pro Lys Thr Gly Leu Leu Ile Ile Val
145 195 200 205

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/856,812

DATE: 11/06/2001

TIME: 14:59:21

Input Set : A:\PTO.DC.txt

Output Set: N:\CRF3\11062001\I856812.raw

```

147 Leu Gly Met Ile Leu Met Glu Gly Ser Arg Ala Pro Glu Glu Ala Ile
148      210                      215                      220
150 Trp Glu Ala Leu Ser Val Met Gly Ala Val
151 225                      230
154 <210> SEQ ID NO: 3
155 <211> LENGTH: 3510
156 <212> TYPE: DNA
157 <213> ORGANISM: Homo sapiens
159 <220> FEATURE:
160 <221> NAME/KEY: CDS
161 <222> LOCATION: (195)..(3064)
163 <400> SEQUENCE: 3
164 caggagatg gtggctttgg cgtgcaagac ccatacacga ttcagcagga gggaaaggct 60
165 gggctgtcgg gagtaaatct gaatacctgg aggacaccca aataaaggaa gtccccgtct 120
166 tgtccccctc ccctgcccac cccccccccc ccccccgcca aatgtctgct ccttctgtca 180
167 gctttgggaa tcccatgcag gtgtgatcgt gtggtgcccc tccccacttc tgccctgcgg 240
168 gtctcaggga ggtgaggacc ttggtctgag ggttgctaag aagttattac agggttccac 300
169 acttgggtcaa cagagggagg agtcccagaa tctgcaggac ccaaggggtg ccccttagt 360
170 gaggactgga ggtacctgca gccagaaaag aagggatgtc acagagtctg gctgtccct 420
171 gttcttagct ctgaggggac ctgatcagga ttggcactaa gtggcaagct caattttacc 480
172 acaggcagga agatgaggaa ccctcaggga aatggagttt tgggtgtaaag gggagatatc 540
173 agccctggac accccacagg gatgacagga tgtggctcct tcttactttt gttttggaat 600
174 ctcaggaggag tgagaacctt gctctcagag ggtgactcaa gtcaacacag ggaacctctc 660
175 ttttctacag acacagtggg tcgcaggatc tgacaagagt ccaggtaagg aacctgaggg 720
176 aaatctgagg gtacccccag ccataaacac agatggggtc cccacagaaa tctgccatga 780
177 ccctactgtc actctggaga acccagtcag ggctgtccgc tgagtctccc tgtcttatac 840
178 aaggatcact ggtctctggg agggagagggt gttgggtctaa gggagctgca ctggggtcag 900
179 cagagggagg gtcccagacc ctgccaggag tcaagggtgag gactgagggg acaccattct 960
180 ccaaacgcac aggactcagc cccaccctac cccttctgtc agccacggga attcatgggg 1020
181 aactgggggt agatggactc ccctcacttc ctctttccat gtctcctgga ggtaggacct 1080
182 tggtttaagg aagtggcctc agatcaacaa agggagggtc ccaggctgta tcaggcatca 1140
183 agaagaggac caagcaggct cctcacccca gtacacatgg acccagctga atatggccac 1200
184 ctcttctgtt cttttctggg aggacctctg cagttgtggc cagatgtggg tccccctcatg 1260
185 tcttctatct cgtatcaggg atgtaagctt ttgatctgag agtttcttag accagcaaag 1320
186 gagcagggtc taggcttttc caggagaaag gtgagagccc cacgtgagca cagaggctcc 1380
187 ccacccagg gtagtgggga actcacagag tccagcccac cctcctgaca acactgggag 1440
188 gctggggctg tgcttgagc ctgaacctg agggcccctc aattcctctt tcaggagctc 1500
189 cagggactgt gaggtgaggc cttgggtctaa ggcagtgttt tcaggtcaca gagcagaaag 1560
190 ggcccagaca gtgccaggag tcaagggtgag gtgcatgccc tgaatgtgta ccaagggccc 1620
191 cacctgctcc aggaacaaagt ggacccact gcatcagctc cacctaccct actgtcagtc 1680
192 ctggagcctt ggccctctgcc ggctgcatcc tgaggagcca tctctcactt ccttcttcag 1740
193 gttctcaggg gacagggaga gcaagaggtc aagagctgtg ggacaccaca gagcagcact 1800
194 gaaggagaag acctgtaagt tggcctttgt tagaacctcc aggggtgtgt tctcagctgt 1860
195 ggccacttac acctccctc tctcccagg cctgtgggtc cccatcgccc aagtctgccc 1920
197 cacactccca cctgctaccc tgatcagagt catc atg cct cga gct cca aag cgt 1975
198
199                      Met Pro Arg Ala Pro Lys Arg
201 cag cgc tgc atg cct gaa gaa gat ctt caa tcc caa agt gag aca cag 2023
202 Gln Arg Cys Met Pro Glu Glu Asp Leu Gln Ser Gln Ser Glu Thr Gln

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/856,812

DATE: 11/06/2001

TIME: 14:59:21

Input Set : A:\PTO.DC.txt

Output Set: N:\CRF3\11062001\I856812.raw

203	10	15	20	
205	ggc ctc gag ggt gca cag gct ccc ctg gct gtg gag gag gat gct tca	2071		
206	Gly Leu Glu Gly Ala Gln Ala Pro Leu Ala Val Glu Glu Asp Ala Ser			
207	25 30 35			
209	tca tcc act tcc acc agc tcc tct ttt cca tcc tct ttt ccc tcc tcc	2119		
210	Ser Ser Thr Ser Thr Ser Ser Phe Pro Ser Ser Phe Pro Ser Ser			
211	40 45 50 55			
213	tcc tct tcc tcc tcc tcc tgc tat cct cta ata cca agc acc cca	2167		
214	Ser Ser Ser Ser Ser Ser Cys Tyr Pro Leu Ile Pro Ser Thr Pro			
215	60 65 70			
217	gag gag gtt tct gct gat gat gag aca cca aat cct ccc cag agt gct	2215		
218	Glu Glu Val Ser Ala Asp Asp Glu Thr Pro Asn Pro Pro Gln Ser Ala			
219	75 80 85			
221	cag ata gcc tgc tcc tcc ccc tgc gtc gtt gct tcc ctt cca tta gat	2263		
222	Gln Ile Ala Cys Ser Ser Pro Ser Val Val Ala Ser Leu Pro Leu Asp			
223	90 95 100			
225	caa tct gat gag ggc tcc agc agc caa aag gag gag agt cca agc acc	2311		
226	Gln Ser Asp Glu Gly Ser Ser Ser Gln Lys Glu Glu Ser Pro Ser Thr			
227	105 110 115			
229	cta cag gtc ctg cca gac agt gag tct tta ccc aga agt gag ata gat	2359		
230	Leu Gln Val Leu Pro Asp Ser Glu Ser Leu Pro Arg Ser Glu Ile Asp			
231	120 125 130 135			
233	gaa aag gtg act gat ttg gtg cag ttt ctg ctc ttc aag tat caa atg	2407		
234	Glu Lys Val Thr Asp Leu Val Gln Phe Leu Leu Phe Lys Tyr Gln Met			
235	140 145 150			
237	aag gag ccg atc aca aag gca gaa ata ctg gag agt gtc ata aaa aat	2455		
238	Lys Glu Pro Ile Thr Lys Ala Glu Ile Leu Glu Ser Val Ile Lys Asn			
239	155 160 165			
241	tat gaa gac cac ttc cct ttg ttg ttt agt gaa gcc tcc gag tgc atg	2503		
242	Tyr Glu Asp His Phe Pro Leu Leu Phe Ser Glu Ala Ser Glu Cys Met			
243	170 175 180			
245	ctg ctg gtc ttt ggc att gat gta aag gaa gtg gat ccc act ggc cac	2551		
246	Leu Leu Val Phe Gly Ile Asp Val Lys Glu Val Asp Pro Thr Gly His			
247	185 190 195			
249	tcc ttt gtc ctt gtc acc tcc ctg ggc ctc acc tat gat ggg atg ctg	2599		
250	Ser Phe Val Leu Val Thr Ser Leu Gly Leu Thr Tyr Asp Gly Met Leu			
251	200 205 210 215			
253	agt gat gtc cag agc atg ccc aag act ggc att ctc ata ctt atc cta	2647		
254	Ser Asp Val Gln Ser Met Pro Lys Thr Gly Ile Leu Ile Leu Ile Leu			
255	220 225 230			
257	agc ata atc ttc ata gag ggc tac tgc acc cct gag gag gtc atc tgg	2695		
258	Ser Ile Ile Phe Ile Glu Gly Tyr Cys Thr Pro Glu Glu Val Ile Trp			
259	235 240 245			
261	gaa gca ctg aat atg atg ggg ctg tat gat ggg atg gag cac ctc att	2743		
262	Glu Ala Leu Asn Met Met Gly Leu Tyr Asp Gly Met Glu His Leu Ile			
263	250 255 260			
265	tat ggg gag ccc agg aag ctg ctc acc caa gat tgg gtg cag gaa aac	2791		
266	Tyr Gly Glu Pro Arg Lys Leu Leu Thr Gln Asp Trp Val Gln Glu Asn			
267	265 270 275			

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/856,812

DATE: 11/06/2001

TIME: 14:59:21

Input Set : A:\PTO.DC.txt

Output Set: N:\CRF3\11062001\I856812.raw

```

269 tac ctg gag tac cgg cag gtg cct ggc agt gat cct gca cgg tat gag 2839
270 Tyr Leu Glu Tyr Arg Gln Val Pro Gly Ser Asp Pro Ala Arg Tyr Glu
271 280 285 290 295
273 ttt ctg tgg ggt cca agg gct cat gct gaa att agg aag atg agt ctc 2887
274 Phe Leu Trp Gly Pro Arg Ala His Ala Glu Ile Arg Lys Met Ser Leu
275 300 305 310
277 ctg aaa ttt ttg gcc aag gta aat ggg agt gat cca aga tcc ttc cca 2935
278 Leu Lys Phe Leu Ala Lys Val Asn Gly Ser Asp Pro Arg Ser Phe Pro
279 315 320 325
281 ctg tgg tat gag gag gct ttg aaa gat gag gaa gag aga gcc cag gac 2983
282 Leu Trp Tyr Glu Glu Ala Leu Lys Asp Glu Glu Glu Arg Ala Gln Asp
283 330 335 340
285 aga att gcc acc aca gat gat act act gcc atg gcc agt gca agt tct 3031
286 Arg Ile Ala Thr Thr Asp Asp Thr Thr Ala Met Ala Ser Ala Ser Ser
287 345 350 355
289 agc gct aca ggt agc ttc tcc tac cct gaa taa agtaagacag attcttcaact 3084
290 Ser Ala Thr Gly Ser Phe Ser Tyr Pro Glu
W--> 291 360 365 370
293 gtgtttttaa aggcaagtca aataccacat gattttactc atatgtggaa tctaaaaaaa 3144
294 aaaaaaaaaa agtttggtat catggaagta gagagtagag cagtagttac attacaatta 3204
295 aataggagga ataagttcta gtgttctatt gcacagtagg atgactatag ttaacattaa 3264
296 gatattgtat attacaaaac agctagaagg aaggcttttc aatattgtca caaaaagaa 3324
297 atgataaatg catgaggtga tggatacact acctgatttg atcattatac tacatataca 3384
298 tgaatcagaa catcaaattg tacctcataa atatctacaa ttacatgtca gtttttgttt 3444
299 atgtttttgt ttttttttaa tttatgaaaa caaatgagaa tggaaatcaa tgatgtatgt 3504
300 ggtgga 3510
303 <210> SEQ ID NO: 4
304 <211> LENGTH: 2559
305 <212> TYPE: DNA
306 <213> ORGANISM: Homo sapiens
308 <400> SEQUENCE: 4
309 tccggggtcg ctcgagccgg ccgggactcg gggatcasaa gtaacggcgg yymkygtket 60
310 gagggacagg cttgagatcg gctgaagaga gcgggccag gctctgtgag gaggcaagg 120
311 aggtgagaac cttgctctca gagggtgact caagtcaaca caggggaacc ctcttttcta 180
312 cagacacagt gggtcgcagg atctgacaag agtccagggt ctcaggggac agggagagca 240
313 agaggtcaag agctgtggga caccacagag cagcactgaa ggagaagacc tgcctgtggg 300
314 tccccatcgc ccaagtcccg cccacactcc cacctgctac cctgatcaga gtcacatgc 360
315 ctcgagctcc aaagcgtcag cgctgcatgc ctgaagaaga tcttcaatcc caaagtgaga 420
316 cacagggcct cgagggtgca caggctcccc tggctgtgga ggaggatgct tcatcatcca 480
317 ctccaccag ctccctcttt ccacctctt tccctcctc ctccctctcc tccctcctc 540
318 cctgctatcc tctaatacca agcaccacc aggaggtttc tgcgatgat gagacacca 600
319 atccctccca gagtgtcag atagcctgct cctccccctc ggtcgttgct tcccttccat 660
320 tagatcaatc tgatgagggc tccagcagcc aaaaggagga gagtccaagc accctacagg 720
321 tcttgccaga cagtgagtct ttaccagaa gtgagataga tgaaaagggt actgatttgg 780
322 tgcagtttct gctcttcaag tatcaaatga aggagccgat cacaaaggca gaaatactgg 840
323 agagtgtcat aaaaaattat gaagaccact tccctttgtt gtttagtgaa gcctccgagt 900
324 gcatgtgct ggtctttggc attgatgtaa aggaagtgga tccactggc cactcctttg 960
325 tccctgtcac ctccctgggc ctccactatg atgggatgct gagtgatgtc cagagcatgc 1020
326 ccaagactgg cattctcata ctatcctaa gcataatctt catagagggc tactgcaccc 1080

```

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/856,812

DATE: 11/06/2001

TIME: 14:59:22

Input Set : A:\PTO.DC.txt

Output Set: N:\CRF3\11062001\I856812.raw

L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:291 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3

L:463 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:5